

Managing Change at S.P. Engineering Works

Part I

As technical Manager at S. P. Engineering works, one of my major responsibilities was modernisation of plant and machinery.

S.P. Engineering Works was set up somewhere around 1962–63 as a forge shop to cater to the requirements of forgings for the automotive industry, the major customers being companies such as TELCO, Ashok Leyland, Mahindra & Mahindra, Bajaj Tempo, and so on. The traditional equipment for the manufacture of forgings has been a drop hammer. S. P. Engineering Works set up the facility with nine drop hammers in the range of 25,000 lbs to 2,000 lbs. All these were imported from America as second-hand equipment. Along with the forging hammers, the other major equipment required are suitable furnaces for heating the raw steel billet material. The furnaces, too, were bought somewhere around 1968. Quite clearly both these pieces of equipment were already old, based on old technology, and required modernisation.

The forging furnaces were identified as the major equipment to be replaced. Since these furnaces were all based on rather primitive technology, the fuel consumption was prohibitively high. It was, therefore, decided to do away with the old furnaces completely and install totally new state-of-the-art furnaces instead.

It is important here to highlight the systematic way by which the problem itself was first identified and subsequent actions then taken.

Detailed fuel consumption readings were taken for all the furnaces; hence, the fuel consumption per ton of material heated was known. While the furnaces were running during regular production, readings were taken for fuel consumption, material heated with various types of jobs, and loading of the furnaces to determine the current situation of fuel consumption in the plant. The total fuel consumption per year was in the region of Rs 60 million for a turnover of Rs 600 million at that point of time (1981–82), that is, almost 10 per cent of the turnover.

To begin with, I was deputed to see the Exhibition of Forging Furnaces and Heat Treatment Equipment held at the International Exhibition Centre in Birmingham. This exhibition is held every two years. I also attended a seminar, which was running concurrently at the exhibition, on subjects such as heating equipment, heat treatment technology, and the like. I was therefore able to discuss at first-hand and apprise myself of all the latest heating equipment being used in the forging industry. I interacted with various specialist firms in England, visiting their works as well as the forging shops where these furnaces had been installed. From these forge shops, I obtained information regarding the working of these furnaces. I also obtained quotations from the suppliers of forging furnaces required by us along with guaranteed fuel consumption parameters. In the process, I gathered information regarding the latest technology on burners, insulation materials like ceramic fiber, recuperators to pre-heat the incoming air used for combustion. With these latest features, fuel consumption parameters were almost one-third of what we were currently consuming at S. P. Engineering Works.